

Cable Specifications

This appendix provides the following cable assembly illustrations and pinout descriptions, which you can use to construct your own cables:

- RS-232 console port cable
- RS-232 auxiliary port cable
- Serial DTE RS-232 cable
- Serial DTE RS-449 cable
- Serial DTE V.35 cable
- Serial DTE X.21 cable
- Serial DTE EIA-530 cable
- Ethernet (AUI) cables

The cables available from us meet FCC part 15J Class A requirements and Verband Deutscher Elektrotechniker (VDE) 0871 Limit B levels. If you construct your own cables, refer to the appropriate documentation regarding interference considerations and cable length limitations.

Assembling Your Own Cables

When assembling your cable, follow these steps:

Step 1 Fold back the braided shield to make electrical and mechanical connection with the metal shell on both ends.

Step 2 Cut unterminated wires back. Insulate or ensure insulation from other conductors.

Step 3 Use the following illustrations and connection tables as a guide to creating your own cables:

- When assembling an RS-232 console port cable, refer to Table A-1
- When assembling an RS-232 auxiliary port cable, refer to Table A-2.
- When assembling an RS-232 cable, refer to Figure A-1 and Table A-3.
- When assembling an RS-449 cable, refer to Figure A-2 and Table A-4.
- When assembling a V.35 cable, refer to Figure A-3 and Table A-5.
- When assembling an X.21 cable, refer to Figure A-5 and Table A-6.
- When assembling an EIA-530 cable, refer to Figure A-6 and Table A-7.
- When assembling an Ethernet (AUI) cable, refer to Figure A-7 and Table A-8.

RS-232 Console and Auxiliary Port Signals and Pinouts

Refer to Table A-1 when assembling an RS-232 console cable, and refer to Table A-2 when assembling an RS-232 auxiliary port cable.

Table A-1 Console Port RS-232 Signals (25-Pin D Connector)

Pin 1	Signal Name	Direction
1	Frame Ground	–
2	Transmitted Data	Input
3	Received Data	Output
4	Request To Send	Shorted together internally with Pin 5
5	Clear To Send	–
6	Shorted to Pin 8	Output
7	Ground	–
8	Carrier Detect	Output
20	Data Terminal Ready	Input

1. Any pin not referenced on a connector is not connected.

Table A-2 Auxiliary Port RS-232 Signals (25-Pin D Connector)

Pin 1	Signal Name	Direction
1	Frame Ground	–
2	Transmitted Data	Output
3	Received Data	Input
4	Request To Send	Output
5	Clear To Send	Input
7	Ground	–
8	Carrier Detect	Input
20	Data Terminal Ready	Output
22	Ring Indicator	Input

1. Any pin not referenced on a connector is not connected.

Serial Cable Pinouts

The following illustrations and tables provide the pinouts and signal descriptions for the RS-232, RS-449, V.35, X.21, and EIA-530 DTE cables.

RS-232

Figure A-1 shows the RS-232 cable assembly, and Table A-3 shows the cable pinouts.

Figure A-1 RS-232 Cable Assembly

Table A-3 RS-232 DTE Serial Cable Pinouts

72-0670-01 Connections¹		
50 Pin	25 Pin	Type
J1-3	J1-36	
J1-39	J2-5	Twisted Pair
J1-40	J2-4	
J1-9	J2-8	Twisted Pair
J1-42	J2-6	
J1-11	J2-2	Twisted Pair
J1-44	J2-7	
J1-46	J2-3	Twisted Pair
J1-30	J2-20	
J1-14	J2-18	Twisted Pair
J1-47	J2-17	
J1-31	J2-15	Twisted Pair
J1-15	J2-1	
J1-16	J2-24	Twisted Pair

1. Any pin not referenced on a connector is not connected.

RS-449

Figure A-2 shows the RS-449 cable assembly, and Table A-4 lists the cable pinouts.

Figure A-2 RS-449 Cable Assembly

Table A-4 RS-449 DTE Serial Cable Pinouts**72-0672-01 Connections**

50 Pin¹	37 Pin	Type
J1-5	J1-38	
J1-7	J2-10	
J1-1	J2-4	Twisted Pair
J1-34	J2-22	
J1-2	J2-5	Twisted Pair
J1-18	J2-23	
J1-35	J2-6	Twisted Pair
J1-19	J2-24	
J1-4	J2-7	Twisted Pair
J1-20	J2-25	
J1-37	J2-8	Twisted Pair
J1-21	J2-26	
J1-22	J2-27	Twisted Pair
J1-6	J2-9	
J1-8	J2-11	Twisted Pair
J1-24	J2-29	
J1-41	J2-12	Twisted Pair
J1-25	J2-30	
J1-10	J2-13	Twisted Pair
J1-26	J2-31	
J1-43	J2-17	Twisted Pair
J1-27	J2-35	
J1-36	J2-19	Twisted Pair
J1-15	J2-1	
J1-44	J2-37	Twisted Pair
J1-48	J2-20	

1. Any pin not referenced on a connector is not connected.

V.35

Figure A-3 shows the V.35 cable assembly with the resistor (301 ohms, 1/4 watt, 1%), and Table A-5 lists the cable pinouts and signal descriptions.

Figure A-3 V.35 Cable Assembly

Table A-5 V.35 DTE Serial Cable Pinouts and Signal Descriptions**72-0671-02 Connections**

50 Pin¹	34 Pin	Type	Signal	Direction
J1-3	J1-36	Jumper	MUX	To Ground
J1-5	J1-38	Jumper	MUX	To Ground
J1-14 J1- Shield	J2-K J2- Shield	Twisted Pair	LTST Not Used	→
J1-2 J1-18	J2-Y J2-AA	Twisted Pair	SCT+ SCT-	←
J1-12 J1-28	J2-P J2-S	Twisted Pair	TXD+ TXD-	→
J1-35 J1-19	J2-R J2-T	Twisted Pair	RXD+ RXD-	←
J1-37 J1-21	J2-V J2-X	Twisted Pair	SCR+ SCR-	←
J1-45 J1-29	J2-U J2-W	Twisted Pair	SCTE+ SCTE-	→
J1-42 J1- Shield	J2-E J2- Shield	Twisted Pair	DSR Not Used	←
J1-9 J1-48	J2-F J2-A	Twisted Pair	RLSD Ground	←
J1-40 J1- Shield	J2-C J2- Shield	Twisted Pair	RTS Not Used	→
J1-2 J1-18	J1-3 J1-5	Resistor Resistor	SCT+ SCT-	R To Ground
J1-35 J1-19	J1-36 J1-38	Resistor Resistor	RXD+ RXD-	R To Ground
J1-37 J1-21	J1-44 J1-48	Resistor Resistor	SCR+ SCR-	R To Ground
J1-30 J1-44	J2-H J2-B	Twisted Pair	DTR Ground	→
J1-39 J1- Shield	J2-D J2- Shield	Twisted Pair	CTS Not Used	→
J1- Shield J1- Shield	J2- Shield J2- Shield	Twisted Pair	Not Used Not Used	
J1- Shield	J2- Shield	Single	Not Used	

1. Any pin not referenced on a connector is not connected.

If the system's serial port is labeled with V2, as shown in Figure A-4, then for optimum performance, use the version of the cable with the part number ending in -02: 72-0671-02 (DTE).

Figure A-4 Serial Port Labeled V2

X.21

Figure A-5 shows the X.21 cable assembly, and Table A-6 lists the cable pinout.

Figure A-5 X.21 Cable Assembly

Table A-6 X.21 DTE Serial Cable Pinouts and Signal Descriptions

72-0683-02 Connections¹

From	Signal	Type	To	Signal
J1-5	MUX SEL		J1-38	GND
J1-36	449 GND		J2-8	X.21 GND
J1-41 J1-25	449 DTR	Jumper	J1-6 J1-22	449 CTS
J1-41 J1-25	449 DTR	Jumper	J1-8 J1-24	449 DSR
J1-43 J1-27	449 SCTE	Jumper	J1-37 J1-21	449 SCR
J1-1 J1-34	449 TXD	Twisted Pair	J2-2 J2-9	X.21 TXD
J1-4 J1-20	449 RTS	Twisted Pair	J2-3 J2-10	X.21 CTL
J1-35 J1-19	449 RXD	Twisted Pair	J2-4 J2-11	X.21 RXD
J1-10 J1-26	449 RLSD	Twisted Pair	J2-5 J2-12	X.21 IND
J1-2 J1-18	449 SCT	Twisted Pair	J2-6 J2-13	X.21 CLK

1. Any pin not referenced on a connector is not connected.

EIA-530

Figure A-6 shows the EIA-530 cable assembly, and Table A-7 lists the cable pinouts and signal descriptions.

Figure A-6 EIA-530 Cable Assembly

Table A-7 EIA-530 DTE Serial Cable Pinouts and Signal Descriptions**72-0732-01 Connections**

50 Pin¹	Signal Name	Direction	25 Pin	Type
J1-5 J1-38	Looped		NC	Jumper
J1-1 J1-34	TXD+ TXD-	→ →	J2-2 J2-14	Twisted Pair
J1-35 J1-19	RXD+ RXD-	← ←	J2-3 J2-16	Twisted Pair
J1-4 J1-20	RTS+ RTS-	→ →	J2-4 J2-19	Twisted Pair
J1-6 J1-22	CTS+ CTS-	← ←	J2-5 J2-13	Twisted Pair
J1-10 J1-26	RLSD+ (RR+) RLSD- (RR-)	← ←	J2-8 J2-10	Twisted Pair
J1-2 J1-18	SCT+ SCT-	← ←	J2-15 J2-12	Twisted Pair
J1-37 J1-21	SCR+ SCR-	← ←	J2-17 J2-9	Twisted Pair
J1-43 J1-27	SCTE+ (TT+) SCTE- (TT-)	← ←	J2-24 J2-11	Twisted Pair
J1-7	LL	→	J2-18	Twisted Pair

72-0732-01 Connections				
50 Pin ¹	Signal Name	Direction	25 Pin	Type
J1-48 J1-36	Ground		J2-23 J2-7	Twisted Pair
J1-15	Shield		J2-1	Single Wire
J1-8 J1-24	DCE Ready Ground	←	J2-6 J2-23	Twisted Pair
J1-41	DTE Ready	→	J2-20	Twisted Pair

1. Any pin not referenced on a connector is not connected.

Ethernet Cable Pinouts

Figure A-7 shows the Ethernet (AUI) cable assembly, and Table A-8 lists the cable pinout.

Figure A-7 Ethernet Cable Assembly

Table A-8 Ethernet Cable Pinouts and Signal Descriptions

Pin ¹	Ethernet Circuit	Signal Name
1	CI-S	Control In Circuit Shield
2	CI-A	Control In Circuit A
3	DO-A	Data Out Circuit A
4	DI-S	Data In Circuit Shield (Jumper L23 and M23)
5	DI-A	Data In Circuit A
6	VC	Voltage Common
7	CO-A	Control Out Circuit A (not connected)
8	CO-S	Control Out Circuit Shield (not connected)
9	CI-B	Control In Circuit B
10	DO-B	Data Out Circuit B
11	DO-S	Data Out Circuit Shield (Jumper L24 and M24)
12	DI-B	Data In Circuit B
13	VP	Voltage Plus
14	VS	Voltage Shield (L25 and M25)
15	CO-B	Control Out Circuit B (not connected)
Shell	PG	Protective Ground

1. Any pin not referenced on a connector is not connected.

Token Ring Port Pinout (DB-9)

Table A-9 lists the Token Ring port pinout.

Table A-9 Token Ring Port Pinout (DB-9)

9-Pin	Signal
1	–RX
2	NC ¹
3	NC
4	NC
5	–TX
6	+RX
7	NC
8	NC
9	+TX

1. NC stands for *not connected*.